

Technology in Education Department
National College of Education, National-Louis University

COURSE SYLLABUS
TIE 300 – Introduction to Technology in the Classroom

Instructor: *Nicole M Zumpano*
Office Hours: By Appointment
Cell: 708-220-2583

E-mail: Nicole.Zumpano@nl.edu
Skype: *nicolezumpano*

TERM: *Fall 2012*
QUARTER HOURS: 3

PROGRAM MISSION:

The mission of the Technology in Education Program is to prepare technology specialists who can effectively integrate technology across the curriculum as well as facilitate the effective use of technology by other educators.

Course description:

This is an introductory survey course with emphasis on technology skill development and appropriate ways to use technology across the curriculum. Students learn computer literacy and its use in education through hands-on activities, such as word processing, presentations, graphics and instructional software appropriate for students, Web 2.0 applications, hardware selection, telecommunications, and integration of technology into your classroom practice.

Prerequisite(s): none

Relationship to specific NLU program(s): This is a required course for the TIE master's program or an introductory technology course in various undergraduate programs.

NCE Outcomes addressed: Collaborates with students, teachers, administrators, parents, policy makers, and community at large.

Course goals and expected student learning outcomes.

Upon completion of this course, the students will be able to:

1. Describe the historical development and important trends in the evolution of technology and its possible future direction. (TF-VIII B1)
2. Describe legal implications of the use of technology systems and peripherals. (TF-VI.D)
3. Describe in simple terms how computers that are commonly used in schools process and store information. (TS-6B)
4. Assist teachers in the use of technology for classroom instruction, including the selection of resources for special needs populations, and safe and healthy use of technology. (TS-7G, TS-8B, TF-I.A.2, TF-VI.D.1)
5. Apply awareness of appropriate and existing research to provide examples of ways in which technology may be used to enhance the curriculum and to meet the needs of special students, who may require adaptive, assistive devices. (TF-VI.B.2)



6. Describe the characteristics and recognize the unique features of a hypermedia learning environment and evaluate their impact and appropriateness for classroom application. (TF-II.A)
7. Apply instructional design principles to develop a substantive, interactive, computer-based hypermedia project relevant to the school curriculum and student needs. (TS-4C, TS-4G, TF-II.A, TF-III.A.7)
8. Import and legally use graphics, audio, and video, applying instructional design principles to the design of screens and use of multimedia for effective instruction. (TS-10, TS-4E)
9. Participate in collaborative projects and in-class team activities. (TS-11D, TF-VII A.8)
10. Use readings from their professional library to reflect on their own professional growth in using technology as well as in their work to support others. (This is a culmination of an ongoing portfolio requirement across courses.) (TF-VII.C)

Major Topics:

- Integrating Educational Technology into the Curriculum
- Communications Networks, the Internet, and the World Wide Web
- Application Software Productivity Tools for Educators
- Hardware for Educators
- Integrating Multimedia and Educational Software Applications
- Technology, Digital Media, and Curriculum Integration
- Evaluating Educational Technology and Integration Strategies
- Security Issues, Ethics, and Emerging Technologies in Education
- Teachers Integrating Microsoft Office
- Digital Image formats
- Digital Video formats and codecs
- Digital Image and Video editing software
- Digital Images and Video and Copyright
- Digital Image and Video classroom applications and projects
- Emerging Technologies and Web 2.0 Integration

NLU Accessibility Policy:

Please Note: National-Louis University is committed to ensuring that all of its facilities and programs are accessible to all persons. If you believe you may qualify for course adaptations or accommodations in accordance with the Americans with Disabilities Act and/or Section 504 of the Rehabilitation Act, it is your responsibility to immediately, but no later than the second class session to contact the Office of Diversity, Access and Equity (DAE Office) or the instructor. You may contact the Director of Diversity and Equal Employment at (847) 947-5491 or via e-mail at Erin.Haulotte@nl.edu. If you have coordinated services with the DAE Office, please provide your letter of accommodation to the instructor.

Attendance:

Attendance and participation are expected for every class. If you must be absent, let me know in advance. You will be expected to demonstrate that you understand what was covered in class, which may include additional activities.

Admission Information:

A maximum of nine semester hours of credit taken as a special student prior to final admission may apply toward an on-campus degree or certificate. Once formally accepted to an on-campus

degree program, you are given six years from the date of your first class to complete your program.

Supporting Website:

<http://tie300fall2012.wikispaces.com>

Suggested text:

Solomon, G., Schrum, L. (2010). Web 2.0 How-to for Educators. 1st Ed. ISTE. ISBN: 978-1-56484-272-5.

Roblyer, M.D., Doering, A.H. (2010). Integrating Educational Technology into Teaching. 5th Ed. Allyn and Bacon, Boston, MA. ISBN: 978-0-13-513063-6.

COURSE REQUIREMENTS:

Assignments	Points
Class Participation/In Class Assignments	5
Tech in Ed Presentation	15
Reflective Postings (Blog)	25
Digital Storytelling Assignment and Presentation	13
Professional Web Presence Website	20
Personal Learning Network	10
Tech Tac Toe Tools	12
Total Points	100

*Additional details of requirements for each assignment and evaluation criteria will be provided. Late assignments will be assessed a 10% reduction for each week late.

GRADING SCALE:

90-100% A

80-89% B

70-79% C

60-69% D

Below 60% F

Working for Mastery Learning: There is always the opportunity to rework assignments to increase the number of points earned.

Date/ Session Type	Topics, activities, assignments due	For the next class:
September 13 <i>In Class Session</i>	-Introductions -Course overview -Blogs -Wikis -Technology in Education research -Tech in Ed sign up	<i>-Reflective posting #1: Introduction</i> <i>-Reflective posting #2: Research</i> <i>Please see course wiki for detailed information on reflective postings</i>
September 20 <i>Online</i>	-Stages of Technology Integration -Web presence examples and setup	<i>-Reflective posting #3: Stages</i> -Finish setting up website: welcome statement, contact info, link to blog
September 27 <i>In Class Session</i>	-Tech in Ed presentations -Personal Learning Networks	-Begin educational philosophy
October 4 <i>In Class Session</i>	-Tech in Ed Presentations -Tech Tac Toe explained -Social Bookmarking	<i>-Educational philosophy due on website</i>
October 11 <i>In Class Session</i>	-Tech in Ed Presentations -Digital Storytelling	<i>-20 web links due on website</i>
October 18 <i>Online</i>	-Work session	-Work on digital story <i>-PLN Assignment Due today</i>
October 25 <i>In Class Session</i>	-Tech in Ed Presentations -Digital Storytelling presentations	<i>-Digital Story due by start of class</i>
November 1 <i>Online</i>	-Tech in Ed Presentation -Instructional Design Models	
November 8 <i>In Class Session</i>	-Tech in Ed Presentations -Tech Tac Toe Presentations -Google Apps in Education	<i>-Tech Tac Toe Due by start of class</i>
November 15 <i>In Class Session</i>	-Tech in Ed Presentations -Digital Citizenship, Copyright, Fair Use	<i>-Web Presence Website due</i>

- **In-Class Assignments (Activities/Discussions/Group Work) – 5 points – at various times throughout the semester**

In-class assignments will be given at various times throughout the class. Some of the assignments will be collaborative and some will be completed individually. The assignments involve the use of the technology that is being explored on a given day

and relate to the readings for the class session. *In-class assignments cannot be made up.* Students must be present to complete and receive credit for the assignment.

- **Reflective Postings** –25 points- **at various times throughout the semester**
Candidates will create a blog and post five substantive reflections based on class discussions and topics. Reflective postings should be a minimum of 100 words and contain rationale related to the topic being discussed. Candidates are encouraged to comment on classmates' reflections.
- **Personal Learning Network** – 10 points – **due 10/18 by midnight**
A personal learning system is a way for you to deal with the tremendous amount of information on the internet. "It allows you to acquire new ideas and information from a wider circle of minds than you see day to day, to capture ideas and insights as you get them, and to stay current on the things that matter to you."¹ More information will be provided on the PLS in class on September 11, 2012.
- **Professional Web Presence** – 20 points – **final version due 11/15 by midnight and presented in class on 12/4**
This site will be used throughout the course as a way of representing yourself as a professional by presenting your beliefs about teaching and materials that you create for the classroom, as well as a way to introduce yourself professionally. It also will serve as a repository for the work that you do in this course. Components of this lesson will be completed at different times throughout the semester.
- **Digital Story** – 13 points – **due 10/25 & in class**
Each student will develop a digital story on the subject of their choice. Additional details will be available on the class wiki and during class on October 2
- **Tech in Ed Presentations** -15 points- **due at various times throughout the semester**
Students will select a technology in education topic they would like to learn more about. Candidates will research the topic, prepare and present a presentation centered around that topic, and post the presentation along with additional resources on the class wiki
- **Tech, Tac, Toe Tools** – 12 points – **due 11/8 by midnight**
The purpose of this assignment is for candidates to demonstrate their skills related to the use and integration of technology and their respective grade levels and areas of

certification by creating three technology activities using Web 2.0 tools. These tools will be submitted through candidates' websites. *Student Choice must be improved by Instructor prior to start. Once posted on Professional Web Presence website the Tool should have a short description: what was the lesson you created? Was the tool easy to use? Recommended grade level for use with students?

QR Code Lesson	Blabberize	Wordle
Voicethread	Student Choice*	Glogster
Screencast	Yodio	Concept Map Popplet

Standards for the LBS II/Technology Specialist [28.320]

STANDARD 1 – Foundations

The competent technology specialist understands the philosophical, historical, and legal foundations of special education. [28.320(a)]

Knowledge - *The competent technology specialist understands:*

1A. concepts and issues related to the use of technology in education and other aspects of our society.

1B. issues in diversity and assistive technology.

Performance - *The competent technology specialist:*

1C. articulates a personal philosophy and goals for using technology in special education.

1D. uses technology-related terminology appropriately in written and oral communication.

1E. describes legislative mandates and governmental regulations and their implications for technology in special education.

STANDARD 2 - Characteristics of Learners

The competent technology specialist understands the impact that disabilities have on the cognitive, physical, emotional, social, and communication development of an individual and provides opportunities that support the intellectual, social, and personal development of all students (ages 3-21). [28.320(b)]

2A. Knowledge - The competent technology specialist understands the impact of technology at all stages of development on individuals with exceptional learning needs.

Performance - *The competent technology specialist:*

2B. matches characteristics of individuals with exceptional learning needs with technology product or software features.

2C. identifies the demands placed on the user by computers, software, and related technology materials.

STANDARD 3 – Assessment

The competent technology specialist understands the educational assessment process and uses various assessment strategies to support the continuous development of all students. [28.320(c)]

3A. Knowledge - The competent technology specialist understands the use of technology in the assessment, diagnosis, and evaluation of individuals with disabilities.

Performance - *The competent technology specialist:*

3B. uses technology to collect, analyze, summarize, and report student performance data to aid instructional decision-making.

3C. identifies functional needs, screens for functional limitations, and determines if the need for a comprehensive assistive or instructional technology evaluation exists.

3D. monitors outcomes of technology based interventions and reevaluates and adjusts the system as needed.

3E. assists individuals with disabilities in clarifying and prioritizing functional intervention goals regarding technology based evaluation results.

3F. works with team members to identify assistive and instructional technologies that can help individuals meet the demands placed upon them in their environments.

3G. identifies placement of devices and positioning of the individual to optimize the use of assistive or instructional technology.

3H. examines alternative solutions and trial periods with potential assistive or instructional technologies prior to making a purchase decision.

3I. makes technology decisions based on a continuum of options ranging from no technology to high technology.

STANDARD 4 - Planning for Instruction

The competent technology specialist understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners. The specialist understands instructional planning and designs instruction based on knowledge of the discipline, students, community, and curriculum goals. [28.320(d)]

4A. **Knowledge** - The competent technology specialist understands procedures for evaluating computer software and other technology materials for their potential application in special education.

Performance - *The competent technology specialist:*

4B. identifies elements of the curriculum for which technology applications are appropriate and ways they can be implemented.

4C. identifies and operates software that meets educational objectives for individuals with disabilities' learning needs in a variety of educational environments.

4D. identifies and operates instructional and assistive hardware, software, and peripherals.

4E. designs, fabricates, and installs assistive technology materials and devices to meet the needs of individuals with disabilities.

4F. provides consistent structured training, according to individuals with disabilities' needs to operate instructional and adaptive equipment and software, until mastery is achieved.

4G. verifies proper implementation of mechanical and electrical safety practices in the assembly and integration of the technology to meet the needs of individuals with disabilities.

4H. instructs others in the operation, maintenance, and warranties of the technology and troubleshooting techniques that may be needed.

4I. uses communication technologies to access information and resources electronically.

4J. develops and implements contingency plans in the event that assistive or instructional technology devices fail.

STANDARD 5 - Learning Environment

The competent technology specialist uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation. [28.320(e)]

Knowledge - *The competent technology specialist understands:*

5A. funding sources and processes for the acquisition of assistive technology devices and services.

5B. national and state pre-kindergarten through grade 12 technology standards.

5C. procedures for the organization, management, and security of technology.

5D. ergonomic principles to facilitate the use of technology.

Performance - *The competent technology specialist:*

5E. evaluates features of technology systems.

5F. develops clear specifications and/or drawings necessary for technology acquisitions.

5G. writes proposals to obtain funds for technology hardware and software.

5H. provides technology support to students who are receiving instruction in general education classrooms.

STANDARD 6 - Collaborative Relationships

The competent technology specialist uses knowledge of effective written, verbal, and visual communication techniques to foster active inquiry, collaboration, and supportive interaction among professionals, parents, paraprofessionals, and students. [28.320(f)]

Knowledge - *The competent technology specialist understands:*

- 6A. the importance of collaboration with teachers, administrators, pupil personnel services personnel, parents, and others in a culturally responsive program.
- 6B. when to refer individuals with disabilities' needs to another professional regarding technology.

Performance - *The competent technology specialist:*

- 6C. conducts in-service training in applications of technology in special education.
- 6D. refers team members and families to assistive and instructional technology resources.
- 6E. collaborates with other team members in planning and implementing the use of assistive and adaptive devices.

STANDARD 7 - Professionalism and Ethical Practices

The competent technology specialist understands teaching as a profession, maintains standards of professional conduct, and provides leadership to improve student learning and well-being. [28.320(g)]

Knowledge - The competent technology specialist understands:

- 7A. equity, ethical, legal, and human issues related to technology in special education.

Performance - The competent technology specialist:

- 7B. maintains ongoing professional development to acquire knowledge and skills about new developments in technology.
- 7C. adheres to copyright laws about duplication and distribution of software and other copyrighted technology materials.
- 7D. advocates for assistive or instructional technology on individual and system change levels.

International Society for Technology in Education (ISTE) Technology Facilitation (TF) -- Initial Endorsement Standards

Educational Computing and Technology Facilitation (TF) endorsement programs meeting ISTE standards will prepare candidates to serve as building/campus-level technology facilitators. Candidates completing this program will exhibit knowledge, skills, and dispositions equipping them to teach technology applications; demonstrate effective use of technology to support student learning of content; and provide professional development, mentoring, and basic technical assistance for other teachers who require support in their efforts to apply technology to support student learning.

The International Society for Technology in Education recognizes that educational computing and technology foundations are essential for all teachers. ISTE also acknowledges educational computing and technology specialty areas beyond these foundations and has established program standards for initial and advanced programs. These program standards will assist teacher education units, and professional organizations and agencies in understanding and evaluating the educational preparation needed for specialization within the field.

This document contains program standards for the Educational Computing and Technology Facilitation (TF) initial endorsement designed to prepare candidates to serve as building/campus-level technology facilitators. Institutions that offer this program should respond to the corresponding program standards. Educational technology facilitation candidates must meet prerequisite foundations for educational technology prior to full admission to the Technology Facilitation program. (http://cnets.iste.org/ncate/n_found.html)

Technology Facilitation Standard I. (TF-I) Technology Operations and Concepts

Educational technology facilitators demonstrate an in-depth understanding of technology operations and concepts.

- A. Demonstrate knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Teachers).
Candidates:
 - a. Assist teachers in the ongoing development of knowledge, skills, and understanding of technology systems, resources, and services that are aligned with district and state technology plans.
 - b. Provide assistance to teachers in identifying technology systems, resources, and services to meet specific learning needs.
- B. Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies. Candidates:
 - a. Model appropriate strategies essential to continued growth and development of the understanding of technology operations and concepts.

Technology Facilitation Standard II. (TF-II) Planning and Designing Learning Environments and Experience

Educational technology facilitators plan, design, and model effective learning environments and multiple experiences supported by technology. Educational technology facilitators:

- A. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners. Candidates:
 - a. Provide resources and feedback to teachers as they create developmentally appropriate curriculum units that use technology.

- b. Consult with teachers as they design methods and strategies for teaching computer/technology concepts and skills within the context of classroom learning.
 - c. Assist teachers as they use technology resources and strategies to support the diverse needs of learners including adaptive and assistive technologies.
- B. Apply current research on teaching and learning with technology when planning learning environments and experiences. Candidates:
 - a. Assist teachers as they apply current research on teaching and learning with technology when planning learning environments and experiences.
- C. Identify and locate technology resources and evaluate them for accuracy and suitability. Candidates:
 - a. Assist teachers as they identify and locate technology resources and evaluate them for accuracy and suitability based on district and state standards.
 - b. Model technology integration using resources that reflect content standards.
- D. Plan for the management of technology resources within the context of learning activities. Candidates:
 - a. Provide teachers with options for the management of technology resources within the context of learning activities.
- E. Plan strategies to manage student learning in a technology-enhanced environment. Candidates:
 - a. Provide teachers with a variety of strategies to use to manage student learning in a technology-enhanced environment and support them as they implement the strategies.
- F. Identify and apply instructional design principles associated with the development of technology resources. Candidates:
 - a. Assist teachers as they identify and apply instructional design principles associated with the development of technology resources.

Technology Facilitation Standard III. (TF-III) Teaching, Learning, and the Curriculum

Educational technology facilitators apply and implement curriculum plans that include methods and strategies for utilizing technology to maximize student learning. Educational technology facilitators:

- A. Facilitate technology-enhanced experiences that address content standards and student technology standards. Candidates:
 - a. Use methods and strategies for teaching concepts and skills that support integration of technology productivity tools (refer to NETS for Students).
 - b. Use and apply major research findings and trends related to the use of technology in education to support integration throughout the curriculum.
 - c. Use methods and strategies for teaching concepts and skills that support integration of research tools (refer to NETS for Students).
 - d. Use methods and strategies for teaching concepts and skills that support integration of problem solving/decision-making tools (refer to NETS for Students).
 - e. Use methods and strategies for teaching concepts and skills that support use of media-based tools such as television, audio, print media, and graphics.
 - f. Use and describe methods and strategies for teaching concepts and skills that support use of distance learning systems appropriate in a school environment.
 - g. Use methods for teaching concepts and skills that support use of web-based and non web-based authoring tools in a school environment.
- B. Use technology to support learner-centered strategies that address the diverse needs of students. Candidates:

- a. Use methods and strategies for integrating technology resources that support the needs of diverse learners including adaptive and assistive technology.
- C. Apply technology to demonstrate students' higher order skills and creativity. Candidates:
 - a. Use methods and facilitate strategies for teaching problem solving principles and skills using technology resources.
- D. Manage student learning activities in a technology-enhanced environment. Candidates:
 - a. Use methods and classroom management strategies for teaching technology concepts and skills in individual, small group, classroom, and/or lab settings.
- E. Use current research and district/region/state/national content and technology standards to build lessons and units of instruction. Candidates:
 - a. Describe and identify curricular methods and strategies that are aligned with district/region/state/national content and technology standards.
 - b. Use major research findings and trends related to the use of technology in education to support integration throughout the curriculum.

Technology Facilitation Standard IV. (TF-IV) Assessment and Evaluation

Educational technology facilitators apply technology to facilitate a variety of effective assessment and evaluation strategies. Educational technology facilitators:

- A. Apply technology in assessing student learning of subject matter using a variety of assessment techniques. Candidates:
 - a. Model the use of technology tools to assess student learning of subject matter using a variety of assessment techniques.
 - b. Assist teachers in using technology to improve learning and instruction through the evaluation and assessment of artifacts and data.
- B. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning. Candidates:
 - a. Guide teachers as they use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- C. Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity. Candidates:
 - a. Assist teachers in using recommended evaluation strategies for improving students' use of technology resources for learning, communication, and productivity.
 - b. Examine and apply the results of a research project that includes evaluating the use of a specific technology in a P-12 environment.

Technology Facilitation Standard V. (TF-V) Productivity and Professional Practice

Educational technology facilitators apply technology to enhance and improve personal productivity and professional practice. Educational technology facilitators:

- A. Use technology resources to engage in ongoing professional development and lifelong learning. Candidates:
 - a. Identify resources and participate in professional development activities and professional technology organizations to support ongoing professional growth related to technology.
 - b. Disseminate information on district-wide policies for the professional growth opportunities for staff, faculty, and administrators.
- B. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning. Candidates:
 - a. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.

- C. Apply technology to increase productivity. Candidates:
 - a. Model advanced features of word processing, desktop publishing, graphics programs, and utilities to develop professional products.
 - b. Assist others in locating, selecting, capturing, and integrating video and digital images in varying formats for use in presentations, publications and/or other products.
 - c. Demonstrate the use of specific-purpose electronic devices (such as graphing calculators, languages translators, scientific probeware, or electronic thesaurus) in content areas.
 - d. Use a variety of distance learning systems and use at least one to support personal/ professional development.
 - e. Use instructional design principles to develop hypermedia and multimedia products to support personal and professional development.
 - f. Select appropriate tools for communicating concepts, conducting research, and solving problems for an intended audience and purpose.
 - g. Use examples of emerging programming, authoring or problem solving environments that support personal/professional development.
 - h. Set and manipulate preferences, defaults, and other selectable features of operating systems and productivity tool programs commonly found in P-12 schools.
- D. Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning. Candidates:
 - a. Model the use of telecommunications tools and resources for information sharing, remote information access, and multimedia/hypermedia publishing in order to nurture student learning.
 - b. Communicate with colleagues and discuss current research to support instruction, using applications including electronic mail, online conferencing, and web browsers.
 - c. Participate in online collaborative curricular projects and team activities to build bodies of knowledge around specific topics.
 - d. Design, develop, and maintain Web pages and sites that support communication between the school and community.

Technology Facilitation Standard VI. (TF-VI): Social, Ethical, Legal, and Human Issues

Educational technology facilitators understand the social, ethical, legal, and human issues surrounding the use of technology in P-12 schools and assist teachers in applying that understanding in their practice. Educational technology facilitators:

- A. Model and teach legal and ethical practice related to technology use. Candidates:
 - a. Develop strategies and provide professional development at the school/classroom level for teaching social, ethical, and legal issues and responsible use of technology.
 - b. Assist others in summarizing copyright laws related to use of images, music, video, and other digital resources in varying formats.
- B. Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities. Candidates:
 - a. Assist teachers in selecting and applying appropriate technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
 - b. Identify, classify, and recommend adaptive /assistive hardware and software for students and teachers with special needs and assist in procurement and implementation.

- C. Identify and use technology resources that affirm diversity. Candidates:
 - a. Assist teachers in selecting and applying appropriate technology resources to affirm diversity and address cultural and language differences.
- D. Promote safe and healthy use of technology resources. Candidates:
 - a. Assist teachers in selecting and applying appropriate technology resources to promote safe and healthy use of technology.
- E. Facilitate equitable access to technology resources for all students. Candidates:
 - a. Recommend policies and implement school/classroom strategies for achieving equitable access to technology resources for all students and teachers.

Technology Facilitation Standard VII. (TF-VII): Procedures, Policies, Planning, and Budgeting for Technology Environments

Educational technology facilitators promote the development and implementation of technology infrastructure, procedures, policies, plans, and budgets for P-12 schools. Educational technology facilitators:

- A. Use the school technology facilities and resources to implement classroom instruction. Candidates:
 - a. Use plans to configure software/computer/technology systems and related peripherals in laboratory, classroom cluster, and other appropriate instructional arrangements.
 - b. Use local mass storage devices and media to store and retrieve information and resources.
 - c. Discuss issues related to selecting, installing, and maintaining wide area networks (WAN) for school districts.
 - d. Model integration of software used in classroom and administrative settings including productivity tools, information access/ telecommunication tools, multimedia/hypermedia tools, school management tools, evaluation/portfolio tools, and computer-based instruction.
 - e. Utilize methods of installation, maintenance, inventory, and management of software libraries.
 - f. Use and apply strategies for troubleshooting and maintaining various hardware/software configurations found in school settings.
 - g. Use network software packages used to operate a computer network system.
 - h. Work with technology support personnel to maximize the use of technology resources by administrators, teachers, and students to improve student learning.
- B. Follow procedures and guidelines used in planning and purchasing technology resources. Candidates:
 - a. Identify instructional software to support and enhance the school curriculum and develop recommendations for purchase.
 - b. Discuss and apply guidelines for budget planning and management procedures related to educational computing and technology facilities and resources.
 - c. Discuss and apply procedures related to troubleshooting and preventive maintenance on technology infrastructure.
 - d. Apply current information involving facilities planning issues and computer related technologies.
 - e. Suggest policies and procedures concerning staging, scheduling, and security for managing computers/technology in a variety of school/ laboratory/classroom settings.
 - f. Use distance and online learning facilities.
 - g. Describe and identify recommended specifications for purchasing technology systems in school settings.

- C. Participate in professional development opportunities related to management of school facilities, technology resources, and purchases. Candidates:
 - a. Support technology professional development at the building/school level utilizing adult learning theory.

Technology Facilitation Standard VIII. (TF-VIII) Leadership and Vision

Educational technology facilitators will contribute to the shared vision for campus integration of technology and foster an environment and culture conducive to the realization of the vision.

Educational technology facilitators:

- A. Use the school technology facilities and resources to implement classroom instruction. Candidates:
 - a. Discuss and evaluate current research in educational technology.
- B. Apply strategies for and knowledge of issues related to managing the change process in schools. Candidates:
 - a. Discuss the history of technology use in schools.
- C. Apply effective group process skills. Candidates:
 - a. Discuss the rationale for forming school partnerships to support technology integration and examine an existing partnership within a school setting.
- D. Lead in the development and evaluation of district technology planning and implementation. Candidates:
 - a. Participate in cooperative group processes and identify the processes that were effective.
 - b. Conduct an evaluation of a school technology environment.
 - c. Identify and discuss national, state, and local standards for integrating technology in the school environment.
 - d. Describe curriculum activities or performances that meet national, state, and local technology standards.
 - e. Discuss issues related to developing a school technology plan.
 - f. Discuss the elements of and strategies for developing a technology strategic plan.
 - g. Examine issues related to hardware and software acquisition and management.
- E. Engage in supervised field-based experiences with accomplished technology facilitators and/or directors. Candidates:
 - a. Examine components needed for effective field-based experiences in instructional program development, professional development, facility and resource management, WAN/LAN/wireless systems, or managing change related to technology use in school based settings.

Supporting Explanation

- Standards for the Technology Facilitation Program are designed to communicate expectations for the performance of candidates who will serve as building/campus-level Technology Facilitators whose major responsibility will be to help classroom teachers apply technology to support student learning. This responsibility takes many forms within the varying environments across educational systems.
- The TF program standards are aligned with the six National Educational Technology Standards for Teachers, but extend the performance expectations of each candidate to reflect preparation for serving as mentor, coordinator, or technology integration specialist, assisting the teachers in their efforts to support student learning and professional growth with technology.